December 30, 2011

Federal Communications Commission
Consumer and Governmental Affairs Bureau (CGB)
445 12th St., SW
Washington, DC 20554

Re: FCC 11-184 NPRM Comment

Filed electronically via ECFS on Docket 10-51

Please allow me to introduce myself briefly. I am Todd Elliott and a VRS consumer. I thank the Commission's members and staff for their time in reviewing this comment, and thank all industry participants and stakeholders for participating in this FCC 11-184 NPRM. The VRS consumer will ultimately benefit from the Commission's work in reforming the VRS industry.

This NPRM has been a very complex undertaking, perhaps finalizing the long process the Commission has undertaken in reforming the VRS market. The first significant step in reforming the VRS market occurred with FCC's Declaratory Ruling governing VRS employees using their employer's VRS services.[1] The reforms continued with FCC's recent ruling re-defining the economic parameters of the VRS market, requiring VRS providers to have 24/7/365 coverage, own their call centers, and banning subcontracting except for exigent circumstances.[2]

As a result, the VRS market has shrunk, from over 50 providers down to 12 providers.[3] And with it, much of the fraud, as it is being prosecuted.[4] The remaining concerns the Commission has about VRS industry centers on its belief that inefficient VRS providers are being subsidized at the Tier 1 rate (waste), that subscale VRS providers are being allowed to operate in an asymmetrical marketplace dominated by one 'at-scale' VRS provider, and that the availability mandate has yet to be met.

[1] FCC DA 10-314, February 25th, 2010.
[2] FCC 11-155.
[3] Paragraph 24, FCC 11-184.
[4] Footnote 19, FCC 11-184.

All of these concerns are valid and should not be dismissed so lightly. However, the resounding success of the tiered per-minute reimbursement rate in producing a robust and intensely competitive VRS market serving a wide range of consumers in a wide variety of settings cannot be discounted, either. This NPRM threatens this competitive status quo that has benefited VRS consumers with innovative products and services.

I believe the VRS industry has now shrunk down to a manageable number of VRS providers, affording some consumer choice, product innovation, and continued excellence in services that exceed mandatory minimum standards of services (MMS). Given a new regulatory climate, current VRS Providers may be better positioned to become 'at-scale' providers and compete effectively with the dominant provider in delivering VRS services and products.

I would have preferred the Commission to take a 'holding' pattern on this NPRM for at least one year, to determine whether structural reforms are truly needed. That said, I will highlight key concerns in this NPRM and discuss them in greater detail. I hope my ad hoc analysis will be of some assistance to the Commission in deciding issues raised in this NPRM.

Paragraph 18

The Commission takes a myopic view on this subject, by focusing on high costs of switching as a rationale in 'downsizing' the VRS industry. The Commission may be correct that VRS users, as a practical matter, are not able to freely choose from the VRS marketplace. However, in principle, robust competition allows the VRS providers to stay on edge.

The need for robust competition, which ultimately benefits the VRS consumer, allows VRS providers to come up with new products and services, and more importantly, to exceed minimum standards of performance. Competition gives the chance for disruptive new entrants and small VRS providers to push the industry forward. If this competition is eliminated, the

remaining VRS providers may simply stick to the minimum performance standards governed by their contracts with the FCC/TRS Fund, and serve the VRS public to a bare minimum.[5]

Not only that, with lessened competition, providers may have little or no incentive to cut costs, and would seek higher return on their costs, and pay them out to their investors. While the TRS Fund may enjoy initial savings, it may soon face ever-increasing reimbursement costs as there is little or no competition left in the VRS marketplace.[6]

Lastly, inefficiencies and waste is inevitable in a regulated marketplace. It is an admirable goal for a regulatory agency to strive to eliminate as much as inefficiencies and waste as possible. Inarguably, inefficiencies and waste, however minor, may be necessary in an asymmetrical market dominated by one provider. They are a byproduct of a competitive marketplace that pushes the industry participants to innovate and to serve their consumers.

Paragraph 21

The huge installed legacy base of H.323 compliant endpoints[7] is an enormous obstacle for incorporating newer, superior, and cheaper 'off-the-shelf' products designed for video telephony. VRS providers that utilize off-the-shelf technologies and products for their endpoint connections have significant engineering challenges in connecting them to this huge legacy base.

Back in the infancy of the VRS market, specialized VP equipment was necessary to jumpstart the market. Videophone products were being made and marketed to the enterprise market. The ROI on manufacturing niche devices for the small Deaf/HH community just wasn't there. Sorenson came through with its brilliant and breakthrough product; the VP-100.

[5] Convo Communications Reply to Comments, filed 9/2/10, Page 7, "In each and every instance, the lowest cost bidder approach has resulted in the emergence of TRS provider freezing or slowing down its activities and negatively impacting quality improvement, service innovation and technological progress are involved throughout the duration of the award period."

[6] Five Providers Joint Comment, filed 1/21/11, Page 5, "[A] bid or auction will only serve to eliminate all players except the dominant provider from the VRS marketplace, either in the initial phases or through a gradual „squeeze" from the industry."

[7] Appendix B, Section II (Background), Paragraph 11, FCC 11-184.

It is now 2012, and what was formerly enterprise grade is now consumer grade. Many models have basic zoom capabilities.[8] Many computers, especially laptops, tablets, and smartphones, have built-in front-facing cameras. The need for a specialized and proprietary product geared at the Deaf/HH market is no longer required, as VRS providers can tap into the mainstream consumer market for these video telephony products.[9]

Free markets are generally superior to regulated markets. If the free markets have decided that video telephony products utilizing the SIP protocol is the latest and greatest technology, then that is what the VRS industry should be using. The dominant provider is primarily relying on H.323 technology, going against the grain of free markets. It reeks of anti-competitive behavior, as the dominant provider is imposing significant engineering costs upon its competitors.[10]

Since technology is a moving target, I propose that the industry participants get together, every five years or so, and settle upon one video telephony standard[11] for new offerings that utilize off-the-shelf solutions. The VRS industry can keep on moving forward, and acquire latest and greatest technologies the free markets have to offer, instead of relying on proprietary solutions.[12] By using off-the-shelf technologies, the VRS market insulates itself against inefficient and/or anti-competitive pressures that may build up within the regulated market.

Paragraph 30

I have reviewed the TRSBPP proposal in Appendix A and have found it unnecessarily burdensome and adds in a layer of complexity to the TRS industry. It is also duplicative in

[8] The built-in cameras commonly found in computers are unlikely to have basic pan and tilt functions. This is normally not an issue, as the computers are small, lightweight, and can be mounted and moved as needed.
[9] See also Appendix B, Section I, Paragraphs 5-6, about Affordability and Supportability, FCC 11-184.
[10] In fairness to Sorenson, they support the transition to the SIP video telephony standard, with required support for H.323 call signaling. See Appendix B, II (Background), Paragraph 12, FCC 11-184.
[11] My understanding is that an industry-wide meeting will be taking place sometime in January 2012, to discuss the SIP video telephony protocol. See Sorenson's Ex Parte Letter, filed 12/20/11, Page 4, "is eager to participate in the Neustar-sponsored iTRS engineering event in January to begin defining future SIP-based compatibility."
[12] I agree that light-flashing technology is important, one that is unlikely met by the free markets. However, I view that as a feature that the VRS providers can 'add-on' to the off-the-shelf endpoint connections.

nature, as it would be modeled after the Lifeline offering currently in place for voice telecommunication networks. I would generally favor an expansion of the current Lifeline program to broadband service offerings as part of the National Broadband Program.

The Commission may not have the jurisdiction and/or political capital to ram through Lifeline services for qualifying low-income customers in obtaining broadband internet service offerings. A 'pilot' program such as the TRSBPP geared towards low-income Deaf/HH customers who use ASL, may help the Commission fulfill its Availability Mandate, in ensuring that they can access VRS services.

If that is the case, I would rather that existing VRS providers administer the program as they have the personnel and resources to deal with Deaf/HH customers in ASL. Their broadband partners are ill-equipped to deal with these customers.[13] The VRS providers can model their program after the Lifeline program, and collaborate with their cable/DSL/mobile broadband partners in offering the TRSBPP pilot program to the low-income Deaf/HH public.[14]

I'm not sure if the TRSBPP program can only be limited to 'sub-scale' VRS providers. 'Sub-scale' VRS providers may not enjoy efficiencies in their outreach programs and may not reach out to all low-income Deaf/HH consumers. The Availability Mandate requires that TRS services be available to the Deaf/HH population in an efficient manner. If the TRSBPP program is to be offered to qualifying low-income Deaf/HH households, the Availability Mandate requires that all VRS Providers are eligible to administer it.

The VRS Providers would retain all consumer data and billing relationships with their broadband providers. The VRS Providers would certify their consumer's continuing eligibility to

[13] They would need to rely on emails, text relay, and online chats with these customers, of whom some may not be proficient in the English language.

[14] Under no circumstances will the VRS Providers pay the monthly broadband internet services out of its pocket in retaining VRS consumers. In my view, that is a monetary incentive tied to a user's monthly usage of VRS services.

the TRSBPP program. The Commission can conduct audits to verify that the requirements of the TRSBPP are being met, and that fraud, waste, and or misuse does not occur there.

Having an influx of new customers who were previously denied entry into VRS services due to their low-income status only helps VRS providers, as they will have a new stream of organic minutes to bill the TRS Fund. The incentives for gaming the TRS Fund through illegitimate minutes may be lessened. It also helps 'sub-scale' VRS providers gain the growth needed to achieve economies of scale required to continue business in the VRS market.

Paragraphs 33-36

The actual VRS market is currently saturated.[15] VRS providers are trying to catch up with the dominant provider and to reach those same consumers. Consumer churn, poaching, winbacks, ETF's, service contracts, etc. all mar the marketing & outreach landscape.[16] The 'bounty' mechanism for acquiring new VRS consumers has a measurable impact on marketing and outreach. Due to the saturation of the actual market, I'm not sure how much of an impact the bounty approach will have in the VRS market. The effects of the bounty mechanism will be amplified by the presence of TRSBPP and/or Lifeline subsidies in the VRS market.

All VRS providers would be eligible for a one-time bounty per new VRS consumer. In the case of households with multiple Deaf/HH members, the bounty would be limited to the head of the household. The household structure can change over time; death, divorce, adult children moving in/out… Individuals leaving such households would be treated as 'new' VRS consumers.

This VRS consumer must have never been a VRS consumer; however, they can be TRS consumers. Due to the low barriers of entry into this market[17], there are a lot more text relay

[15] Footnote 51, FCC 11-184.
[16] See generally, Sorenson's Letter, filed 12/16/11.
[17] i.e., A consumer just needs an AIM client or web interface. Broadband speeds are not required.

consumers than there are VRS consumers. There needs to be a way of identifying new VRS consumers[18], even though they may be familiar with relay services and could use VRS.

The providers would require standardized documentation of a hearing and/or speech disability done in a narrative format, signed by a professional. No audiogram is needed. The provider would need record identifying information, such as a SSN, a state-issued ID card or driver's license number, or a residential address.

As for ASL evaluation, one quick idea is to see which services the new TRS consumer uses the most in the first 3 or 6 months? If it's 90% on the text relay side, then the TRS provider is ineligible for the bounty. If it's 90% on the VRS side, then the TRS provider is eligible.[19] The 3-6 month 'grace' period also benefits the Commission, as it prevents compensating for 'drive-by' consumers, as they would sign up for VRS services and then disappear.[20]

Another idea is to have the new VRS consumer provide documentation of his/her ASL skills. If a new VRS consumer provides a copy of his/her H.S. diploma or transcript issued by a Deaf School, would that constitute prima facie evidence of ASL skills? A Gallaudet degree or transcript would be a comparable example? A standardized narrative attesting to the new VRS consumer's ASL skills, signed by a professional, could also be an acceptable substitute?

Alternatively, the provider would evaluate the VRS consumer's ASL skills according to SCPI and would require an Intermediate rating.[21] This can be done at the initial installation, with the VRS consumer being evaluated by a trained SCPI evaluation specialist remotely. This evaluation will go no longer than five minutes[22], and will have standardized criteria and

[18] The VRSURD could be used for this purpose.
[19] This would have some privacy concerns, as the TRS Fund Administrator would look and compare call records from provider submitted call data and consulting the VRSURD.
[20] i.e., they could sign up for broadband services, only to find them too expensive and discontinue their subscription.
[21] http://www.rit.edu/ntid/slpi/system/files/SCSDB%20Student%20Teacher%20Intern.pdf (Page 8)
[22] 'Thin-slicing' techniques can aid the evaluator in quickly rating potential new VRS consumers.

dialogue. This SCPI evaluation specialist will not be affiliated with a VRS Provider, to prevent a conflict of interest. A part of the bounty will go towards paying for the SCPI evaluation. I am not too keen on the SCPI route, as it means another layer of complexity for VRS industry.[23]

Finally, the provider will keep all initial documentation related to a new VRS consumer, and submit a certifying bid[24] for the bounty. The Commission will conduct audits to make sure that there's no phantom consumers, recycled consumers, previous VRS consumers, text-based relay consumers, inactive consumers, hearing consumers, consumers with insufficient ASL skills, and any other measures to 'game' the bounty.

Paragraph 37

There should be a cap on bounty disbursements to VRS Providers. Since there is saturation in the actual VRS market, I would suggest that the cap be limited to 50% of the actual VRS market. The reason I suggest the 50% threshold is because it represents the 'tipping point', where the influx of new VRS consumers will spur additional new VRS consumers to sign up and register for VRS services. This maximizes the effectiveness and reach of the bounty mechanism.

Paragraph 38

This interpretation does not agree with the Availability Mandate, that VRS Provider's marketing and outreach operations be done in the most efficient manner possible. Since the actual VRS market is saturated, the TRS Fund should not reimburse VRS providers for branded marketing and outreach expenses. As for the potential VRS market, the TRS Fund could be used to fund a bounty mechanism for VRS providers in acquiring new VRS consumers.

[23] Another constraint on the SCPI route is that there may be an insufficient number of trained evaluators to cope with the bounty evaluations. There may be unintended consequences, as a significant number of agencies use the same evaluators to rate their staff, faculty, and interpreters in a wide variety of settings, including schools, and the VRS market can easily disrupt this dynamic.

[24] Usually, this bid would just contain a first and last name, and the ten-digit phone number. That should be sufficient for most identification purposes. The VRSURD database can be used for this purpose.

While this bounty mechanism would be available for all VRS providers, it would help 'sub-scale' providers grow their operations and achieve economies of scale needed to operate in the VRS market going forward. It would help 'sub-scale' VRS providers reach scale operations in their marketing and outreach operations, fulfilling the Availability Mandate. The bounty mechanism could be a 'windfall' for 'at-scale' VRS providers, except that they offset the losses they incur in not receiving reimbursement for their branded marketing and outreach expenses.

Paragraph 39

To paraphrase Huey Long, "every man a VRS consumer". There are at least two parties to a relay call. Unfortunately, there remain a lack of awareness and understanding among the mainstream public when it comes to handling relay calls, much to the detriment of relay consumers facing a hang-up after another.[25]

VRS Providers have good branded outreach campaigns. They are reaching out to employers.[26] One provider even put up public billboards and a clever marketing campaign at a Metrorail stop.[27] Generally speaking, reaching out to the public has a poor ROI, as these consumers tend not to 'convert' into VRS consumers. They don't sign up for 10-digit numbers. They may gain the awareness to know NOT to hang up on relay calls they receive.

The Commission needs to step in. They need to request a RFP, hire an advertising agency, and mount an outreach campaign in the American public and use mainstream media. General-purpose outreach helps promote awareness, public acceptance and confidence in the relay industry. Branded outreach helps, but general-purpose outreach efforts to promote awareness and acceptance for relay calls is sorely needed.

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[25] One example is Wells Fargo refusing relay calls. See http://www.ada.gov/wells_fargo/wf_fact_sheet.htm
[26] One example is Purple Communications partnering with AllState. http://www.prweb.com/releases/2011/12/prweb9016909.htm
[27] http://www.convorelay.com/blog/?p=1087535159 (Billboard) and http://www.dcnoma.com/?p=326 (NY Avenue Metrorail Stop floor advertisement)

Paragraph 44

I'm no expert in technical matters involving the actual inner workings behind VRS access technologies. Appendix B made for some educational reading. I have some reservations on how VRS calls are handled. One concern centers on the fact that signaling protocols are used, and direct access between two (or more[28]) VRS access technology points are required. The other concern relates to closed video telephony platforms such as Skype, FaceTime, etc.

In Part III of Appendix B – Attachment, Paragraph 24, it states that "the call is to another user's VRS access technology and the **video link** will be set up between the two Internet based VRS access technologies using SIP signaling procedures." [bold-face emphasis mine] It is not immediately clear what a 'video link' actually means. Given its plain meaning, it would suggest that a direct connection is made between two VRS access technology points, and there is duplex video streaming between them.

My concern is that there may be interoperability issues between the two VRS access points involved in an ordinary call. One uses H.323 signaling, and the other uses SIP signaling, for example. One may be behind a corporate firewall with strict IT policies, and the other on a consumer connection with a simple router, for example.

The Commission's rationale behind the requirement of a direct video link, is that access to the VRS infrastructure not be damaged or degraded by competitor's products, gateways, and video telephony protocols. These are the same concerns echoed by Part 68 rules governing terminal equipment on the PSTN. Due to the resounding success of Part 68 rules[29], there stands to no reason why not the VRS industry can follow in the same path as its telecommunications brethren when it comes to connecting VRS access technologies.

[28] What about multicast units? No mention was made of these technologies in Appendix B. They could be used to facilitate conference calls between multiple participants.
[29] Paragraph 18, FCC 11-184.

Server based signaling and 'intermediary' video streaming needs to be added into the mix of signaling and connecting two VRS access points. For example, if the caller's gateway fails to establish a direct video linkup between two VRS access points, the connection can 'fall-back' onto the callee's gateway to facilitate an intermediate video link. Otherwise, the gateways are out of the picture once a direct video link is established between two VRS access points.

I'll illustrate three examples: Example one: A home VP user calls someone at work using a VP behind a corporate firewall. Due to the strict corporate firewall, the VP call will fail to establish a direct video linkup when initially redirected by the caller's gateway. The gateway will sense that its (H.323 or SIP) signaling did not connect to the other VRS access point, and will then will attempt to signal the callee's gateway. The callee's gateway should accept the signaling, and establish a direct video linkup **between itself** and the caller's VRS access point. Then the callee's gateway will 'restream' the call to the other VRS access point behind a firewall, and vice-versa, acting as a 'middle-man'.

Example two: A home VP user calls a voice user. This would be an ordinary VRS call. However, the home VP user elects to 'dial-around' his/her default provider and use a competing provider's VRS service. The caller's gateway will signal the VRS provider's access point and sense that it did not work, perhaps due to incompatible video streaming protocols. (i.e., the home user could be using H.264 client on his/her netbook, and the VRS provider's VP banks all utilize H.263.) As a fall-back, the caller's gateway signals the VRS provider's gateway, and connects the VP user to the VRS provider's gateway. Then, the VRS Provider's gateway establishes an 'intermediate' video streaming linkup between the VP user and the VRS provider's access points. The VRS Provider's gateway will translate the H.263/H.264 videostreams between the two VRS access points, establishing a dial-around VRS call to a voice user.

Example Three: A mobile VP user calls a home VP user, but the home VP user is not there. The caller's gateway will attempt to signal the other VRS access point, but the other access point keeps on ringing, and eventually the mobile VP user hangs up the connection. However, some VRS providers elect to have 'Video Mail' feature for their VRS access points, and this functionality could be lost. Rather, the caller's gateway will keep on signaling the other access point and notes that it is still ringing. Perhaps after a predetermined amount of ringing (5 rings?), the caller's gateway will then signal the callee's gateway and establish a direct video linkup between the mobile VP user and the callee's gateway. The callee's gateway will then 'record' the video mail message, or use some other business logic in processing the unanswered call.[30]

The main thread tying all three examples is that the callee's gateway is the server that ultimately handles the video call, completing it successfully. There should be little fear of competitor's gateways degrading or blocking video calls, as the callee's gateway is the VRS access technology point's default VRS provider. The VRS user relies on his/her default provider in completing incoming calls, in addition to handling regular outgoing traffic.[31]

I'm not sure if caller's gateways can be involved as a streaming media intermediary. Ordinarily, the VRS access point should know how to communicate with its own gateway. The caller gateway's main job is to redirect calls its VRS users make, and drop out the picture once a connection is made to an another VRS access point or a callee's gateway. To be sure, there could be technical problems with outbound calls, i.e., a VP user calls from a household containing

[30] i.e., Purple's 'One-Number' initiative.
http://www.purple.us/uploads/docs/Purple_One_Number_Release_042611.pdf

[31] There is a legitimate basis for this fear. Competitor's gateways could still degrade or block calls originating from competing products for point to point calls, and then 'blame' the lousy or non-existent connection on the competitor. Consumer education is key, and they need to know that their default VRS provider is responsible for handling incoming calls from nearly any source, be it a voice user, a mobile user, or a consumer using a competitor's VP product. The educated consumer will leave their default VRS provider if they degrade or block competitor's calls, and take their business elsewhere.
Moreover, it is highly unlikely the competitor's gateways will degrade or block VRS calls, and will process them promptly, as they usually are 'dial-arounds' and is an opportunity to win business.

multiple VRS access points, and the caller's gateway is needed to facilitate the call. Caller's gateways should rarely be used as streaming media intermediaries.

One caveat about using server gateways, especially on outgoing calls, is that they can also be proxy servers. They can conceal the true ip-addresses that are being accessed. They could help conceal international VRS calls, for example. They could help conceal VRS calls made by VRS employees using their VRS employer's services in violation of the February 25th, 2010 Declaratory Ruling.[32] Regardless of whether the call is outgoing or incoming, it is imperative that the server gateways record the actual ip-addresses being used, and that the data is sent to the TRS Fund for reimbursement.

The best implementation that involves server-based and ip-based routing, signaling, and video-streaming between two VRS access technology points is to populate the iTRS database with the ip-address of the server gateway that is associated with a ten-digit number.[33] This way, server gateways between two VRS access technology points can communicate with each other and determine the best and optimal method of connecting these end-points.

Which brings me to my next concern; using closed video telephony services such as Skype, Google Talk, and FaceTime for VRS calls. These services can also be used to make point to point calls between ASL users, and it's only natural to use them in accessing VRS services in reaching out to voice users. While VRS Providers may be able to accept and handle these calls, due to their closed and proprietary environment, they may not be able to fully record all data needed to submit to the TRS Fund for reimbursement.[34]

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[32] FCC DA 10-314.

[33] I think this is being done? Does the iTRS database actually allow entry of ip-addresses for server gateways in addition to ip-addresses for VRS access points? Doesn't the iTRS database already populate entries with ip-addresses of server gateways for ip-based text relay ten-digit numbers?

[34] The FCC requires ten specific categories of data the VRS Provider must capture in order to receive reimbursement for VRS calls. See Sorenson's Request for Clarification, filed 11/18/11, Page 2.

Closed and proprietary systems pose significant interoperability issues, precluding them for use with real ten digit numbers associated with VRS access points. The VRS Access Technology Requirements require that the VRS Providers control the environment in which they process point to point and VRS calls.[35] They also pose significant e911 issues, as the VRS provider may not readily ascertain the address to quickly locate the appropriate 911 call center and direct local emergency resources.

I call for a ban on using closed and proprietary video telephony networks such as Skype, FaceTime, Google Talk, for VRS use.[36] Consumers, however, are free to use them in point to point connections with other users on the same network. They just can't access the iTRS database and utilize VRS services.[37]

Paragraph 59

I have serious reservations about the proposals floated in Appendix C. It is understandable that the Commission may have concerns about subsidizing sub-scale providers, the hazards of negotiating a tiered per-minute reimbursement scale, and the incentives for unscrupulous participants in gaming the TRS Fund for illegitimate activities.

The gaming of the TRS Fund may still continue even if the per-user compensation model is adopted, with emphasis shifting from minutes to consumers. By adopting a per-user compensation model, the Commission is actually exchanging a whole new set of benefits and drawbacks from the old tiered per-minute rate reimbursement model, and the net result is that the problems plaguing the VRS sector may continue, with losses to the TRS Fund.

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[35] FCC 11-184, Pages 80-82, in which four specific categories are outlined; Communications Requirements, Remote Feature Access, User Interface, and User Data Private Transfer.
See also Figure 1, on Page 79, VRS Videophone Interfaces.

[36] It does not preclude their use if these technologies can be incorporated as standalone client/server architecture programmed and hosted by VRS Providers and uses the same authentication protocols.

[37] I'm not sure about online applications such as Convo's Anywhere service. HTTP/RESTful services can be adapted for specialized VRS usage, but I don't know all the details behind such web-based technologies, and how they achieve the Commission's aims regarding interoperability, accountability, safety, and integration.

I continue to favor the tiered per-minute rate reimbursement scheme for VRS services. It is wildly successful, spawning a robust and competitive VRS industry with the latest products and services. It has spawned a huge actual VRS market[38], with room for improvement in the potential VRS market. However, if the Commission insists on retooling the compensation model for VRS services, I will suggest some feasible ideas on how to achieve the change(s) the Commission is currently seeking.

The Commission needs to examine the best of both models, eliminate as much as possible the drawbacks from each model, and come up with a unified 'hybrid' compensation model that is suitable for the VRS industry. This proposed hybrid compensation model will have **both** a per-minute reimbursement rate and a per-user rate.

There was some discussion about the average minute per user, but it misses the point that all users are not average. I believe the Pareto Principle is at play in the VRS markets; 80% of the VRS call volume is made by 20% of its users.[39] Under the averaging cost theory, the VRS providers will still lose money, as the money earned by users falling below the average threshold (80% of them) will not make up for the losses incurred by users flying significantly above the average threshold (20% of them).

VRS providers may be incentivized to keep the users that fall or hover on the average threshold, and dump the users that exceed the average threshold. Some unscrupulous VRS consumers will intentionally rack up significant VRS minutes, and this practice may lead to a swift ejection by the affected VRS provider(s).[40] These 20% of the users will find themselves w/o a VRS provider, and unless they curb their calling practices, will have great difficulty in

[38] The dominant provider alone has 100K endpoints. Purple Comm. Comment, filed 5/13/09, Pages 4 & 13.
[39] It is an educated observation on my part. I have no actual proof. Interpret it any way you want.
[40] This is analogous to 'click fraud', where competitors click on Google AdSense ads and targeted keywords, hoping to bankrupt their competition.

obtaining a 10-digit number ever again. This alone will frustrate the Availability Mandate, as users are curbed in their calling activities, and may even be barred from accessing advanced telecommunications networks.

The core costs of providing VRS can fall into three categories, with one distinction. The first category, CA-related costs and related overhead, needs to be sub-divided, where related overhead is a subcategory of CA-related costs. This is because related overhead can be amortized among a broad base of users, and the services of a single CA is on a consumable one-on-one basis. A single CA cannot multitask and serve multiple users. The gross product derived by a single CA cannot be spread out among multiple users, and cannot be stored and retained for future use. Once it's consumed, it's gone.

I propose the following: That there be a per active VRS user compensation scheme for the CA-related overhead subcategory, end-user iTRS access technology, and general & administrative costs. These are the costs that can be averaged and amortized a broad base of active VRS users. They can be carried forward, reused, stored, scheduled, rearranged, etc. in response to active VRS user demand.

I'm not sure if my per active VRS user compensation proposal will be a multi-tiered rate. Despite its costs being spread among VRS users, bigger VRS providers enjoy economies of scale and buying power, lowering its costs relative to its subscale competitors. I will refrain from commenting on the exact amount of costs involved, and whether it be a tiered rate, and leave it to industry participants to work with the FCC in establishing such compensation rate(s) for per active VRS user.

I also propose a per-minute reimbursement rate for CA-related costs. While I believe that CA-related costs are constant per minute, I disagree with the reasoning that they are also constant

with the average minutes per user.[41] These two concepts are mutually exclusive, as CA-related costs are consumable and discarded. They cannot be averaged out among users. However, CA-related costs are constant per minute, in the sense that they earn a salary and benefits that can be spread out on a time basis.

Allow me to illustrate with a simple example. Let's assume that a single CA costs a provider around 60K/year in salary. Add in 15K/year for benefits, for a total of 75K/year. A VRS provider needs at least three CA's to provide 24-hour coverage, so the base rate will work off on that figure. VRS services are provided 365.25 days of the year. First, we multiply the combined salary+benefits figure for three CA's to arrive at $225K/year. We divide this $225K/year figure by 365.25 days to arrive at roughly $616 dollars a day to provide 24-hour VRS coverage, every day of the year. Dividing this $616/day figure by 1,440 minutes comes to around 43 cents per minute for VRS interpreting services.

I know I'm grossly simplifying things, and I trust the VRS Providers will provide actual cost data for their CA's and to collaborate with the FCC on a suitable per-minute reimbursement rate. This would not be a tiered rate, as it is based on one input; the cost of a single CA, preferably averaged among all VRS providers. According to my ad hoc calculations, my proposed per-minute reimbursement rate for CA-related costs is 43 cents per minute, based on $75K/year in salary+benefits for a single CA.

Fraud, waste, and misuse based on VRS minutes will plummet as the per-minute reimbursement rate is focused on one cost input; the actual CA relaying the call. It is hard to facilitate the fraud, waste, and misuse, as 99% of the per-minute reimbursement rate would go to the CA, and it takes two to tango. The other party perpetuating the fraud, waste, and misuse, would gain nothing by his/her endeavor and takes upon a heavy risk of prosecution and/or fines.

[41] Paragraph 55, FCC 11-184.

My humble proposal; a tiered per active VRS user compensation (based on three categories) with a single per-minute rate reimbursement scheme (based on CA-related costs). The Deaf/HH community is small, and identifying and qualifying information is required, it is easier to track and detect fraud among VRS users. It is harder, as the Commission hinted, to track and detect inorganic use of VRS minutes that is commingled with legitimate VRS minutes.[42]

One additional benefit of having a per active VRS user compensation scheme is that it allows VRS providers to have that 'monthly nut', knowing they will receive compensation for serving their active users, regardless of how many minutes they use. The incentives to 'game' the TRS fund through fraud, waste, and misuse of VRS minutes, may be greatly lessened and/or all but eliminated altogether.

Paragraph 60

My proposal is that the VRS provider is compensated for the end-user iTRS access technology category for its inactive users. This way, the VRS provider is still getting its 'monthly nut' from a user, regardless if he/she is active or not. While it may be characterized as 'waste', I view it as the cost of doing business, ensuring that VRS consumers receive quiet enjoyment from their VRS providers. Obviously, the VRS provider would prefer that its users would be 'active', as they would gain a greater monthly subsidy across three categories.

That said, VRS providers could be incentivized in contacting their 'inactive' users and spur them into making outgoing VRS calls as a condition of remaining a customer with them. The providers could threaten to cut off services for these users, and deactivate their ten-digit

[42] Paragraph 59, FCC 11-184, "Would it be easier to detect the existence of fraudulent users than fraudulent minutes of use (particularly *ex post facto*), thus rendering the program easier to monitor and audit?"
The Commission should also consider Sorenson's suggestion in its Petition for Rulemaking submitted on 10/1/09 in Docket 03-123, page 19, "[E]ach provider periodically would submit its algorithms confidentially to the FCC and the Fund administrator, thereby giving those entities a broad menu of diagnostic tools to review any provider's submitted minutes. Since no provider would know what algorithms its competitors had submitted, any provider inclined to submit non-compensable minutes would face a heightened deterrent to doing so."

numbers. I propose that if VRS providers engage in customer relations designed to spur 'active' users, then they are subject to sanctions from the FCC's enforcement bureau. Aggrieved VRS consumers can utilize the Form 2000C Disability Access Complaint procedure.[43]

Paragraph 62

I find the part discussing enterprise employers and users to be troubling. Governmental interference is bad enough, but when it intrudes into the employment sphere, it may discourage or retard job opportunities for Deaf/HH people in mainstream employment. Employers may find the additional red tape of becoming an 'Enterprise Employer' to be burdensome. They already have numerous laws and regulations on the city, state, and federal levels.

Any Deaf/HH employees that are in the mainstream workforce, at a worksite with three or less VRS access technology points, would normally request VRS services from the VRS provider of his/her choice in his/her name, and treated as a residential consumer. All applicable rules governing the per active user compensation proposal would apply; i.e., is he/she a new VRS user? Did he/she use up his/her VRS Provider allotment (up to two VRS providers)? Etc. The same rationale holds true for self-employed Deaf/HH people.

My proposal is that any enterprise worksite that has four or more VRS access technology points, then that enterprise be classified as an Enterprise Employer. That requirement alone should eliminate 99% of the worksites in America, and significantly reduce the paperwork burden for the enterprise, VRS providers, and the Commission.

If a worksite that has four or more VRS access technology points, it is very highly likely that this would be a Deaf-oriented enterprise, i.e., a Deaf school, a Deaf organization, a Deaf business. This is where the designation of an Enterprise Employer comes in. This Enterprise

[43] Couple that with high volume VRS users complaining about VRS access, the Commission's Enforcement Bureau could be easily swamped in handling Form 2000C Disability Access Complaints.

Employer would be readily familiar with the accessibility needs of Deaf/HH workers and could easily accommodate VRS providers in setting up VRS access technology points and streamline VRS/VP services for its employees. However, in exchange, the Enterprise Employer is treated as a single VRS access technology point, as the VRS provider has 'locked up ' the market for this employer and has an exclusive VP/VRS service relationship.

There may be some justification for adding 'seats' to Enterprise Employers for the purpose of billing the appropriate amounts for the proposed per active user compensation scheme. For example, an Enterprise Employer has four TRS access technology points, which would equal one 'seat'. Another one has eight access points, equaling two seats. Maybe in increments of 4, 5, or 10 access points, the VRS provider is given a seat in servicing the Enterprise Employer. The seat is the equivalent of an active user under this proposed compensation scheme. The more seats an Enterprise Employer has, the more compensation a VRS provider will have in serving the needs of Enterprise Users of this employer.

Alternatively, on a case by case basis, the Commission could consider the number of anonymous enterprise users, if they are sharing VRS access technology points, as it may be a more equitable method of calculating compensation. This is usually for consumer-oriented Deaf services agencies, where hundreds of Deaf/HH people visit their offices to receive human services and to utilize VRS services. This would be used for "Public Access VideoPhone" (PAV)[44] units at various locations.

In exchange, the Enterprise Users don't have to 'give up' their access to a VRS provider on a personal basis. They still retain their right to elect up to two VRS providers under this proposed per active user compensation scheme for their home and mobile use. The Enterprise

[44] Term coined by Communication Services for the Deaf. See CSD Request to Withdraw TRS Application, Page 3, "as well as support its Public Access Videophones under its own name."

Employer is the customer that will deal with the VRS Provider in ensuring that their telecommunication needs are being met.

Paragraph 63

This is one area where the proposed per active user compensation scheme falls short. VRS Employees can make personal calls from home or on a smartphone. They would sign up for their company's VRS services. The VRS Enterprise Company would have a small monthly 'subsidy' for serving their employees' personal calls. This creates perverse incentives, where VRS Enterprise Providers may be incentivized to hire Deaf/HH people and 'lock-up' their personal business in the process.

There are two possible approaches. One is to ban employees from using their VRS Enterprise Employer's services for personal calls. This does not violate the employee's civil rights afforded to them for their personal calls; they can still register with another VRS provider for their telecommunication needs at the home and for their mobile calling needs. VRS Enterprise Employers, knowing that their employees would be using competitor's products and services for personal calls, could be dis-incentivized from employing them; rather, they would try to capture their business as residential users. Job opportunities in the VRS Enterprise sector could all but disappear for Deaf/HH people.

The other approach is to allow employees to use their VRS Enterprise Employer's VRS services for their personal use. The proposed per active user compensation scheme must not exceed 10% of the employee's monthly gross salary. For example, an employee earns $3K/month working for a VRS Enterprise Employer. He/she can use the VRS Enterprise Employer's VRS services for no more than $300 a month for his/her personal calling needs.

This way, VRS Enterprise Employers can consider hiring Deaf/HH people as employees, and not view them as 'subsidy centers', bur as valued members who contribute to its bottom line. And that these employees are free to select their VRS Enterprise Employer's VRS services for personal use. The drawback with this approach is that VRS Enterprise Employers may empty out its part-time and the commissioned workforce, as they need to capture their business as residential users. 1,000's of 'low-grade' jobs in the VRS industry could be lost.

Paragraphs 76-78

The obvious drawback in implementing a per active user compensation scheme is that it 'locks-in' consumers with a single VRS provider. What if the consumer needed to make an ASL to Espanol call[45], and his/her default provider didn't have a translator on call? What if the consumer had an emergency and dialed 911, only to encounter a busy screen or placed on hold for longer than two minutes? My proposed per-minute reimbursement rate for CA-related costs allows VRS consumers to dial out to a different VRS provider, if needed. If a hybrid approach is not used in the new compensation methodology, the Commission should still establish a per-minute reimbursement rate based on CA-related costs to allow 'dial-arounds'.

Paragraphs 79-81

In light of the proposed per user compensation scheme, there is a need to limit the number of VRS providers a consumer can sign up for. Otherwise, the TRS Fund would inefficiently be supporting that consumer with multiple VRS providers. Under the current per-minute rate reimbursement scheme, this was never a huge problem[46] as VRS consumers could sign up for multiple VRS providers. If a per active user compensation scheme is adopted, then

[45] The per active user compensation scheme jeopardizes VRS providers whose business model relies on specialized services such as ASL to Espanol and not having a sufficient consumer base. They may rely on 'dial-outs' for the bulk of their business.

[46] See also, the Commission's assertion that "the total reimbursements paid from the TRS Fund for each VRS user's minutes of use will be roughly the same, regardless of which providers process the calls." Para. 79, FCC 11-184.

VRS consumers would have to be limited to only one or two providers. It is a limit that VRS consumers may not like, as it will restrict their freedom to choose from a blend of VRS providers that best meet his/her telecommunication needs.

My proposal is that VRS consumers would be limited to a maximum of two providers. One for their home/work use, and one for their mobile use. VRS consumers can elect to have their home/work/mobile VRS needs met by a single VRS provider and the TRS Fund would only provide one single monthly subsidy.[47] VRS consumers, despite this proposed restriction, can still dial-around to another VRS provider at the proposed CA per-minute reimbursement scheme.

While it may be 'wasteful' in the sense of allowing a VRS consumer a choice of up to two providers under this proposed per active user compensation scheme, it acknowledges the realities of the 'supportability' of iTRS access technologies and the challenges for VRS providers in meeting this need.

Here are two examples; A VRS consumer has a VRS provider for his/her home and work use. However, he/she elects to purchase a subsidized smartphone with a front-facing camera. The VRS provider does not have a VRS client for the operating system supported by that smartphone. The VRS consumer elects to choose a second VRS provider to obtain VP/VRS services on his/her smartphone. While VRS providers have some control over the VRS access points for residential use and can easily support them, they have nearly no control over the vast mobile landscape consisting of hundreds of smartphones and controlled by powerful wireless carriers.

Another example is that a VRS consumer has a VRS provider for his home, but at his/her work, there is a hardened corporate firewall with stringent IT policies. His home VRS provider does not have the end-point hardware/software solution to accommodate him/her at the worksite.

[47] This is because, "when a VRS user utilizes both fixed and mobile services, that user's mobile minutes tend to replace, rather than supplement, that user's fixed minutes." Paragraph 81, FCC 11-184.

The VRS consumer elects to have a second VRS provider to utilize a VRS access point that can be supported by this provider in the context of his workplace's strict IT rules. Like the mobile landscape, the mainstream employment landscape is vast, with millions of employers and millions of IT/security considerations.

The more that VRS Providers can arrive at a consensus stack of iTRS access technologies that they can easily support at home, the enterprise, and the mobile platforms, then the need for a consumer to elect up to two VRS providers will be lessened and/or eliminated. I am of the belief that the VRS industry, as a whole, is not there yet, with many providers possessing good support in one or two of these areas, but not all three.

Paragraph 83

Service contracts can be utilized for new VRS consumers, and consumers that 'switch' VRS providers. The rationale not lies in the actual cost of the consumer acquisition, including the CPE hardware, but the ongoing revenue they stand to gain from the TRS Fund under this proposed per user compensation scheme. The stakes are raised if there's a new VRS consumer bounty. The VRS consumer has a 30-day grace period in returning the CPE hardware and/or backing out of the service contract at no cost. (This also opens the door for winback efforts.)

Paragraph 84

I suggest that service contracts lock-in new VRS consumers and switchers for a maximum of one year. This way, the VRS provider is ensured of having recurring monthly revenue from the TRS Fund, which could be a substantial amount over a one year period.[48] However, the VRS industry can rapidly change, due to robust competition, with innovative new products and services; VRS consumers retain their rights to freely switch to another VRS provider upon expiration of their one year term.

[48] Assuming they are 'active' users. Otherwise, they would gain little, if any, recurring revenue.

The VRS consumer does have some rights under a service contract arrangement with a VRS provider, if the provider does not meet his/her needs or fails to adhere to minimum performance standards. All the VRS consumer has to do is to elect to remain as an inactive user, and sign up for a second VRS provider for his/her telecommunication needs. VRS providers will know this dynamic and will do anything to prevent inactive consumers on their service contracts, and vigorously attend to their telecommunication needs.

ETF fees can be imposed on the breach of service contracts. These are contracts, and competing VRS providers can be liable for tortuous interference with contracts and be subject to heavy damages, as the contracted VRS provider stands to lose a great deal of recurring monthly revenue from the TRS Fund. It would be too difficult to discern the intent and rationale behind a VRS consumer's decision for switching VRS providers in the middle of a service contract.

The ETF fees would be on a sliding scale; after the grace period, the ETF fee would equal the cost of the remaining months on the service contract at per user compensation rates. An example: after three months into a one-year term, a consumer elects to switch VRS providers. The per active user compensation rate is $400 per user. Multiplying that figure by the remaining nine months comes to an ETF fee of $3,600 dollars.

The ETF fee is a quick and simple remedy for tortuous interference with contracts, without the need for judicial intervention. I'm not sure if a competing VRS provider would be able to pay a part of this ETF fee on the behalf of its switching consumer. The mere fact that a VRS consumer is responsible for part or all of his/her ETF fees would discourage switching VRS providers during their service contracts and would reduce customer churn and poaching.

The VRS consumer will have to return the CPE hardware, as it is usually leased by the VRS Provider, ETF fees do not figure into the equation. Rather, the VRS provider could charge

the consumer the amortized cost for the CPE hardware should it not be returned. Example: A VRS consumer has a CPE hardware costing $1,200 with a shelf life of 2 years. Dividing that comes up to $50/month. The VRS consumer decides not to return the CPE hardware, perhaps to damage, loss, etc., at the 14th month of VRS service. Since ten months remain on the amortization schedule, the VRS consumer is liable for $500 dollars for the failure to return the CPE hardware. By returning the CPE hardware, the VRS consumer meets the obligations of leasing CPE equipment from his VRS provider and escapes liability.

All of this is at the expense of consumer choice. Since they would be locked into service contracts with heavy ETF fees, consumers may be reticent in signing up for VRS services, and may scrutinize VRS providers. They may gravitate towards 'stable' VRS providers at the expense of lesser players because of the uncertainties involved in year-long service contracts and ETF fees. The Availability Mandate may be frustrated by VRS consumer's behavior in response to service contracts, ETF fees, and CPE-hardware lease return fees.

Paragraph 86

VRS Providers may be motivated in jettisoning their high volume VRS users under this proposed per active user compensation scheme. However, a hybrid compensation scheme that allows per-minute reimbursement rate for CA-related costs may just be the incentive VRS providers need to maintain and service their VRS consumers, regardless of call volume.

Alternatively, VRS providers could target these users with degraded services, disconnections, etc. in response to their high call volumes. VRS providers may pre-screen users and evaluate their fitness to sign up for VRS services, and recruit just the right kind of consumers they need, avoiding high-volume consumers. And in the rare event that their screening process failed to detect a high volume VRS user, they may undertake stealth campaigns to remove them.

Thus, VRS consumers need to have the ability to report recalcitrant VRS Providers by filing a Form 2000C Disability Access Complaint, and that these VRS providers are subject to sanctions from the FCC's Enforcement Bureau.[49] Due process is afforded for these VRS providers, and if stealth campaigns are used, proving intentional discrimination may be a difficult threshold for the complaining VRS consumer. The Availability Mandate prohibits discrimination[50], and the Commission is empowered to ensure that such practices do not continue under this new proposed per active user compensation model.

Paragraphs 138-140

If the Commission cannot adopt a per active user compensation rate methodology, they should consider hybrid alternatives, i.e., combining the best of the monthly per active user compensation with the per-minute reimbursement. If the hybrid approach is insufficient, then the Commission should continue the tiered per-minute rate methodology based on an average of actual/historical VRS provider's costs for their respective tiers, not projected costs.

The major caveat is that if the Commission decides to continue the tiered per-minute reimbursement methodology, it signals a failure of the VRS reform efforts based on per active user compensation. The Commission is then urged to set the tiered per-minute rates for a maximum of three years. The VRS industry needs certainty so they can invest in their operations, tap the equity markets, and serve their consumers with quality services and innovative products.

Paragraphs 141-142

I propose that the tiered per-minute rate reimbursement methodology have a dual purpose, and there would be an eventual transition to a single per-minute rate reimbursement for VRS services by no later than June 1st, 2016.

[49] The FCC's Enforcement Bureau may be flooded with VRS consumer's complaints.
[50] Paragraph 104, FCC 11-184.

The tiered per-minute rate reimbursement methodology would have their respective Tiers and VRS providers would be compensated for minutes served in those Tiers, just like the current status quo. However, Tier 1 would also be called the 'entrant' tier. This is for new entrants to the VRS industry. This includes VRS providers that were recently granted provisional certification by the FCC.[51] Tier 1 would exist for three more additional years before it's phased out. The new entrants will have the incentives and opportunities to grow and to lower their costs, because they will be pushed onto the next tier.

Tier II would be called the 'subscale' tier. This would include most VRS providers in the VRS industry. This 'subscale' tier will continue until June 1st, 2016, when it, too, is phased out. Nearly all VRS providers will be incentivized to grow, gain consumers, and to lower their costs, because they would be pushed into Tier III.

Tier III would be called the 'scale' tier. Currently, as far as I know, only two VRS providers qualify.[52] This would be the single rate reimbursement methodology for VRS services for June 1st, 2016, and beyond. This single rate reimbursement methodology assumes that all VRS providers have achieved economies of scale needed to compete in an environment with other 'at-scale' providers in delivering VRS products and services to a broad range of VRS Consumers at home, the enterprise, and in mobile environments.

This also assumes that some VRS providers may not make the cut; they cannot obtain the consumers they need to 'grow' into the next tier. They will simply go out of business, or if they are still hanging around, then their TRS certifications would expire at the end of their five-year term. Entrant VRS provider's actual cost data would be meaningful for the entrant tier. Once the entrant tier is phased out, their actual cost data may stand out as an outlier, a strong indication

[51] Convo Communications, ASL Services Holdings, and Communication Axess Ability Group on 11/15/11.
[52] Sorenson Communications as the 'dominant' provider, and Purple Communications. See Purple's Ex Parte Comment, filed 7/21/10, "Purple as the only other provider currently reimbursed from Tier 3."

that they have not achieved economies of scale. If that happens, their actual cost data will be ignored from calculating the 'sub-scale' tier. The same rationale holds true for current sub-scale VRS providers in computing the 'scale' tier.

Under this tiered per-minute rate reimbursement scheme for the next three years, all VRS providers will receive compensation for all the minutes they are eligible for Tiers I, II, and III rates on a consecutive basis. This is similar to the current status quo. The reimbursement process would be similar for all VRS providers when Tier 1 is phased out, leaving Tiers II and III.

On June 1st, 2016, the Commission will settle upon a single per-minute reimbursement rate for VRS services on a multi-year basis for the entire VRS industry. If the VRS market has cratered extensively to the point where consumer choice is only limited to one 'at-scale' provider, then the Commission can reopen the VRS market for new entrants, set phases, growth goals, per-minute reimbursement rates, etc. specifically for them. The 'at-scale' VRS provider(s) would not be eligible for any subsidies afforded for new entrants.

Policy Recommendations

- Inefficiencies and waste is inevitable in a regulated marketplace. Set rules and regulations designed to incentivize industry participants to reduce waste and eliminate inefficiencies as much as possible.
- Have industry wide meetings every 3-5 years to settle upon the latest iTRS access technologies and standards that utilize off-the-shelf hardware and to the extent possible, open-source software components.
- Expand the Lifeline offering to low-income customers in acquiring broadband internet services. Dump the TRSBPP proposal.

- Eliminate branded marketing/outreach costs from the compensation methodology for VRS services. This is because the VRS market is ‘saturated’, and branded marketing/outreach initiatives are increasingly becoming ineffective.
- Establish a new VRS consumer bounty for all VRS providers, to be paid out by the TRS Fund, only after these new VRS consumers have been active users for at least 3 months.
- Standard documentation, done in a narrative format, is required for verifying and certifying new Deaf/HH ASL users. The SCPI route only enters the picture at the auditing level, when there is a reasonable suspicion whether this new VRS consumer actually knows ASL or not.
- The new VRS consumer bounty needs to be capped to 50% of the actual VRS market.
- The VRSURD database can be created to support the new VRS consumer bounty initiative and nothing else. The Commission would be able to accurately measure the effectiveness of the bounty approach in effectuating its Availability Mandate, and to monitor the program in preventing fraud and waste.
- The Commission needs to contract with an advertising agency in an outreach campaign geared towards the mainstream public, educating them about relay services, accepting relay calls, and to promote public confidence.
- The iTRS database needs to be populated with ip-addresses of server gateways associated with all ten-digit phone numbers. Server gateways will communicate with each other and determine an optimal course in completing VP/VRS calls. Server gateways can serve as ‘intermediary’ video streaming access point between two VRS access technology points.
- Closed and proprietary video telephony systems should not be utilized, unless the VRS providers can program, operate, and host these systems themselves.

- The per active user compensation methodology should not be used. A hybrid approach that incorporates the elements of per active user and per minute use, should not be utilized either.
- There needs an additional classification of ‘Enterprise Employers’ for worksites that have three or more VRS access technology points. This would be done transparently, and aids the Commission in its regulatory, oversight, and enforcement responsibilities. This is because VRS providers can ‘lock up’ the market for these enterprises and provide exclusive VP/VRS services. VRS providers may provide one-time incentives in locking up such enterprises under the guise of a ‘donation’.
- Providers can ‘lock up’ their new VRS consumers and switchers with service contracts not to exceed one year, only if the VRS access technology point is hardware based. The ETF fees would discourage customer poaching and churn, and would be equal to the remaining amortized amount of the cost of the hardware being used. The VRS consumer has a 30-day grace period, which opens the door to winback efforts.
- The Commission is urged to set up a new tiered per-minute rate reimbursement methodology for the next three years, based on VRS provider’s actual/historical cost data. No interim one-year rates.
- The new tiered per-minute rate reimbursement methodology would serve a dual purpose for the next five years. Phase One would designate Tier I as the ‘entrant tier’ and phase it out at the end of three years. Phase Two would designate Tier II as the ‘sub-scale tier’ and phase it out at the end of two more additional years. This phase-out of the Tiers I and II would be finished at the end of five years.

- At the end of the transitional five year period, the Commission can establish a single per-minute rate reimbursement methodology based on actual/historical costs for 'at-scale' VRS providers. The actual/historical cost data for 'sub-scale' VRS providers would be 'outliers', and not included in computing the single per-minute rate reimbursement.
- 'Sub-scale' VRS providers run the risk of seeing their TRS certifications expire at the end of their five year term. The Commission can only protect competition, not competitors in the VRS market.
- If competition in the VRS marketplace is destroyed, then the Commission is urged to 'reopen' the market and subsidize new entrants at higher per-minute reimbursement rates, set operating requirements and minimum standards of service, set milestones, and incentivize them to attain the growth they need to achieve 'at-scale' operations. The 'at-scale' VRS providers would not be eligible for these subsidies.
- The TRS Fund Administrator needs to use VRS provider submitted SQL algorithms designed to detect patterns of fraud, waste, and misuse in screening all provider-submitted call data. Anomalous and suspicious patterns would be flagged, and compensation from the TRS Fund would be withheld, pending further inquiry. Since VRS providers will not know the exact nature of how these competitor's SQL algorithms work, they could be deterred from engaging in activities designed to game the TRS Fund.

Thank you for reading and giving me the opportunity to offer my input in this important NPRM affecting the VRS industry.

Sincerely,

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